

is very promising but it is a long road to consumption for the copper. We found a half million dollar copper smelter in the Kaibabs and a saw mill, but only two men in the mountains besides the foresters, and these were at the saw mill. They had a wagon road to Fredonia. In fact you can wagon from the top of the Kaibab saddle to Fredonia or most any other place in that region. An auto was driven through from Salt Lake while we were there to Bright Angel, on the north side of the canyon across from the hotel. But from Bass Station to Trumbull, 125 miles, there will be no inhabitants through the winter, except Bass and John working out assessments on new mines.

Yours Truly,

JAS. H. FERRISS.

A NEW VARIETY OF LYMNÆA STAGNALIS.

BY FRANK C. BAKER.

LYMNÆA STAGNALIS LILLIANÆ var. nov.

Lymnæa stagnalis var., DANIELS, NAUTILUS XXII, p. 120 (1909).

Lymnæa stagnalis var., WALKER, Ann. Rep. Mich. Geol. Surv., 1908, 289, figure 63, No. 1 (1909).[†]

Shell elongate-ovate, with short spire and elongated, narrow aperture, which is typically longer than the spire; whorls flattened, elongated, very flat-sided and sloping, especially the body whorl which is cylindrical; spire sharply acuminate; whorls $5\frac{1}{2}$ to 6; body whorl elongated, flattened, roundly shouldered; aperture long and narrow, slightly expanded; axis strongly gyrate; umbilical region with a very minute, narrow chink; sculpture and nuclear whorls as in *stagnalis appressa*.

Length, 42.06; width, 22.00; aperture length, 26.00; width, 13.00 mill.

Length, 40.00; width, 19.50; aperture length, 23.50; width, 11.75 mill.

Length, 39.00; width, 20.00; aperture length, 24.50; width, 11.00 mill.

Length, 37.50; width, 19.50; aperture length, 23.75; width, 12.00 mill.

Length, 40.00; width, 19.00; aperture length, 23.25; width, 11.50 mill.

Length, 28.00; width, 13.00; aperture length, 17.50; width 8.50 mill.

Types: Chicago Academy of Sciences, five specimens, No. 24554.

Type Locality: Tomahawk Lake, Oneida County, Wisconsin.

Range: Michigan and Wisconsin north of the 45th parallel of north latitude.

Records.—*Michigan*: Isle Royale; various localities. (Adams; Gleason; Walker).

Wisconsin: Quynoch Point, Eagle Bay, and other portions of Tomahawk Lake, Oneida County (Baker).

Ecology: *L. s. lillianæ* is typically an inhabitant of sandy shores, in shallow water, where it is subjected to heavy wave action, only once was a specimen found in a still-water habitat, and this instance was undoubtedly caused by drifting from its normal habitat. When any number of specimens were found, the habitat was invariably an exposed beach. Associated with *lillianæ* were *Galba emarginata* and *Flanorbis binneyi*. Individuals were observed crawling over the sandy beach or attached to water-soaked logs or other shore debris.

The animal of this race exhibits two color phases, one bright yellow and the other black or grayish-black. No cause for this color dimorphism was apparent. It is not protective as both forms occupy the same area of white sandy beach.

(To be continued.)

DESCRIPTION OF A NEW SPECIES OF ANODONTA.

BY L. S. FRIERSON.

ANODONTA DAKOTA, n. sp. Plate X.

Shell elliptically rounded before (slightly cut away below) dorsal line nearly straight, base slightly curved. Posterior nearly straight, making the shell trapezoidal in outline. Epidermis straw yellow, with dark bands marking the rest periods.

Umbonal ridge angular, beaks not high, with double loop sculpture, as in *Ano. grandis*, Say.

Umbos inflated, greatest diameter of shell about $\frac{1}{3}$ from beak to base.